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ASYMMETRIC SHUNT FOR DEFLECTION YOKE FOR REDUCING DIAGONAL SYMMETRIC DEFECTS

Background of the Invention

The invention relates to a deflection unit for a colour cathode-ray tube, which unit is also called a deflection yoke, which includes a pair of horizontal deflection coils and a pair of vertical deflection coils in the form of a saddle, the particular shape of which makes it possible to minimize the coma, geometry and convergence errors of the beams simultaneously.

A cathode-ray tube intended to generate colour images generally comprises an electron gun which emits three coplanar electron beams, each beam being intended to excite a phosphor for a specific primary colour (red, green or blue) on the screen of the tube.

The electron beams scan the screen of the tube due to the effect of the deflection fields created by the horizontal and vertical deflection coils of the deflection yoke fixed to the neck of the tube. A separator made of plastic serves to isolate the two pairs of coils and to ensure that the deflection yoke is mechanically rigid. A ring of ferromagnetic material conventionally surrounds the deflection coils so as to concentrate the deflection fields in the appropriate region.

The three beams generated by the electron gun must always converge on the screen of the tube on pain of introducing a so-called convergence error which falsifies, in particular, the rendition of the colours. In order to make the three coplanar beams converge, it is known to use so-called self -converging astigmatic deflection fields; in a self-converging deflection coil, the intensity of the field or the lines of flux which are caused by the horizontal deflection winding are generally in the form of a pin-cushion in a portion of the coil which lies more to the front of the latter on the side of the tube